

Japanese Kokai Patent Application No. Hei 10[1998]-164529

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Job No.: 228-112226

Ref.: JP 10-164529/RCA 88751,88752,88641 JP/BJC, BJD, JPF (TRACEY, KAREN, DELLA)/#7350

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JAPANESE PATENT OFFICE  
PATENT JOURNAL (A)  
KOKAI PATENT APPLICATION NO. HEI 10[1998]-164529

Int. Cl. <sup>6</sup> :	H 04 N 7/08 7/081 H 04 H 1/00
Filing No.:	Hei 8[1996]-334717
Filing Date:	November 28, 1996
Publication Date:	June 19, 1998
No. of Claims:	8 (Total of 8 pages; FD)
Examination Request:	Filed

TELEVISION BROADCASTING METHOD AND TELEVISION RECEIVER

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[There are no amendments to this patent.]

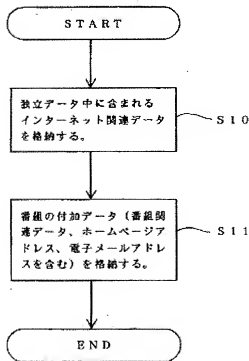
Abstract

Purpose

To provide a television broadcasting method and a television receiver capable of easily accessing the Internet and the address of the sponsor or a related party of certain program.

### Constitution

Internet -related data are contained within the received data of a television broadcast. That is, the home page address, e-mail address, etc., are transmitted as the URL to the television receiver, and the television receiver can access said address to access the home page or to send e-mail. The Internet -related data are contained in the independent data within the received data or in the additional data of a certain program. As a result, said data are retrieved from the independent data and additional data (S10, S11) and accessed by using said address.



- Key: S10 Internet -related data contained in independent data are stored.  
 S11 Additional data of program (containing program-related data, home page address, and e-mail address) are stored.

### Claims

1. A television broadcasting method characterized by the fact that broadcasting is performed so that the received digital television broadcast data contains Internet address data.
2. The television broadcasting method of Claim 1 characterized by the fact that said Internet address data contained within the received data is a URL.

3. The television broadcasting method of Claim 1 or 2 characterized by the fact that said Internet address data is included in the independent data within the received data and is the home page address.

4. The television broadcasting method of Claim 3 characterized by the fact that the home page introduction data as the display data for introduction of the accessible home page and the First-page data of the home page introduced by said home page introduction data are stored in said independent data in the received data.

5. The television broadcasting method of Claim 1 or 2 characterized by the fact that the home page address of the sponsor of the program comprising the program data and the e-mail addresses of the actors, staff, and other persons related to the program are stored as the Internet address data in said additional data of a prescribed program in the received data.

6. The television broadcasting method described in Claim 5 characterized by the fact that program-related data as the display data for introduction of the accessible home page and the e-mail address and the First-page data of the home page introduced by the home page introduction data are stored in the additional data in the received data.

7. A television receiver characterized by the fact that the television receiver receives digital television data, wherein Internet address data contained in the received digital television broadcast data are input and the address data are accessed.

8. The television receiver of Claim 7 characterized by the fact that said Internet address data contained within the received data is a URL, and that access is performed by means of said URL.

#### Detailed explanation of the invention

[0001]

Technical field of the present invention

The present invention pertains to a television broadcasting method and a television receiver. Specifically, the present invention pertains to CS broadcasting or another digital television broadcasting method and its television receiver.

[0002]

Prior art

Broadcasting methods of the prior art include BS broadcasting using broadcasting satellites, CS broadcasting using communication satellites, etc. Here, in particular, the aforementioned CS broadcasting and other types of digital television broadcasting services have become popular. The Internet has also quickly become popular. The Internet is used to access

home pages or to send e-mails. Also, in Japanese Kokai Patent Application No. Hei 7[1995]-288606, in the television broadcasting for the home page, it is disclosed that the data indicating telephone numbers are transmitted in the television broadcast for home shopping.

[0003]

Problems to be solved by the invention

However, the prior art has some problems. In the prior art, when access is to be made via the prescribed address such as the address of the home page, the home page address or other addresses should be input for access, or the desired company or the like should be retrieved by means of the information retrieval system. Also, when a television broadcast is to be received or the home page of the sponsor of a certain program is to be accessed, the same procedure as described above is needed. When electronic mail is to be sent to the actors or other personnel associated with a certain program, it is necessary to get the e-mail address. Here, the purpose of the present invention is to provide a television broadcasting method and a television receiver capable of easily accessing the Internet, and the address of the sponsor or a related party of a certain program.

[0004]

Means to solve the problems

In order to solve the aforementioned problems, the first part of the present invention provides a television broadcasting method characterized by the fact that broadcasting is performed with Internet address data contained within the received data of a digital television broadcast. As a result, the address data can be retrieved and the address is easily accessed by the television receiver.

[0005]

The second part of the present invention pertains to said first part of the present invention characterized by the fact that the Internet address data are contained as a URL in the received data. As a result, it is possible to perform access by means of said URL. The third part of the present invention pertains to the television broadcasting method described in said first or second part of the present invention, characterized by the fact that the home page address is contained as the Internet address data in the independent data in the received data. Consequently, since the home page address is retrieved by the television receiver, it is easy to access the home page. The fourth part of the present invention pertains to the television broadcasting method described in the third part of the present invention, characterized by the fact that in the independent data in the received data, the home page introduction data as the display data for introduction of the

accessible home page and the First-page data of the home page introduced by said home page introduction data are stored. According to the television broadcasting method as the fourth part of the present invention, the home page introduction data are stored in the received data, so that because the home page introduction data are retrieved by the television receiver to display the home page introduction data, it is possible to inform the user of the accessible home page. Also, since the First-page data are stored, it is possible to display the first page of the home page up until access to a given home page is completed.

[0006]

The fifth part of the present invention pertains to said first or second part of the present invention characterized by the fact that in the additional data of the prescribed program data in the received data, as the data of address pertaining to Internet, the home page address of the sponsor of a program as the program data and the e-mail addresses of the actors/actresses, staff, and other persons related to the program are stored. Consequently, since said home page address is input by the television receiver, it is easy to access the home page. Also, by retrieving said e-mail address, it is possible to send the e-mail to the actors and other persons related to a given program. The sixth part of the present invention pertains to said fifth part of the present invention, characterized by the fact that in the additional data in the received data, the program-related data as the display data for introduction of the accessible home page and the e-mail address and the First-page data of the home page introduced to the home page introduction data are stored. Consequently, since the program-related data are stored in the received data, by retrieving and displaying the program-related data with the television receiver, the user can have access to the accessible home page and related parties that can receive e-mails. Also, since the First-page data are stored, it is possible to display the first page of the home page during the period up until access to a certain home page is completed.

[0007]

The seventh part of the present invention provides a television receiver characterized by the fact that in the television receiver that receives digital television data, the Internet address data contained within the received data of the digital television broadcast are retrieved in, and access is performed according to the address data. As a result, since access is performed according to the address contained within the received data of the television broadcast, it is possible to access the home page easily. Also, the eighth part of the present invention pertains to the seventh part of the present invention, characterized by the fact that the Internet address data are contained within the received data as a URL, and access is performed by means of said URL.

[0008]

Embodiment of the present invention

In the following, an explanation will be given regarding the embodiment of the present invention with reference to the figures. Television receiver A of the present invention has the constitution shown in Figure 1 and is comprised of the following: shared BS/UHF/VHF receiving unit (10), CS tuner (12), QPSK demodulator (14), error correction unit (16), descrambling unit (18), data separator/program selector (20), video decoder (22), audio decoder (24), storage unit (26), character generator (28), interface (30), display unit (32), speaker (34), DVD-RAM driver (36), home automation communication unit (40), remote controller light-receiving unit (42), slot (44), modem (46), storage unit (48), Internet software module (50) (hereinafter referred to as module), and CPU (52).

[0009]

Here, said shared BS/UHF/VHF receiving unit (10) is connected via connecting unit (5) to BS antenna (60), UHF antenna (62), and VHF antenna (64). By means of said antennas, the broadcasting signals of BS broadcast, UHF broadcast and VHF broadcast are received, respectively. The video and audio signals of each of said broadcasting signals are output to interface (30).

[0010]

Also, CS tuner (12) is connected via connecting unit (7) to CS antenna (66), and the receiving channel that receives the broadcasting signal of the CS broadcast through said CS antenna (66) is selected. Also, QPSK-demodulator (14) demodulates the received data of the broadcasting signal that is QPSK-demodulated. Also, error correction unit (16) corrects the error generated in the transmission path of the encoded received data. Also, descrambling unit (18) has the function of descrambling, which is performed by using a descrambling code read from card (70). Also, data separator/program selector part (20) separates the independent data from the additional data contained in the received data, and, at the same time, the prescribed broadcasting channel is selected from among the plural broadcasting channels (programs) in a given receiving channel.

[0011]

In the following, an explanation will be given regarding the constitution of the received data of the CS broadcast with reference to Figures 2 and 3. Figures 2 and 3 show the case when four broadcasting channels and one independent data are contained in a single receiving channel, and the independent data and program data are stored in each packet. In this case, since there are

four broadcasting channels, four types of program data "program data 1" through "program data 4" are stored. The program guide data and news data, etc., are stored in the independent data. Also, the video data, audio data, and additional data are contained in the program data. The additional data are data other than video data and audio data, and they contain the data of the actors/actresses, etc. Also, Figure 3 shows the case when the amount of information contained in program data (1) is greater than that for the other program data. For example, this is the case when program data (1) are video program data, and the other program data are weather forecast data and images similar to still pictures.

[0012]

Also, video decoder (22) decodes the video data in the selected program, and audio decoder (24) decodes the audio data in the selected program. Also, storage unit (26) stores the program guide data, news data, and said additional data. Also, character generator (28) converts the text data for displaying the text data on display unit (32).

[0013]

Said interface (30) works as an interface between the various equipment connected to said interface (30). Also, display unit (32) as the display means is for displaying the image and can be a monitor. Said speaker (34) outputs sound. Also, DVD-RAM driver (36) records the received data on the basis of the instructions from the user.

[0014]

Also, home automation communication unit (40) is connected to various types of home automation systems (hereinafter to be referred to as HA systems) B (see Figure 4), and communication is performed with said HA system B. Said remote controller light-receiving unit (42) receives IR light as the output data from remote controller (68), and the contents of the output data are output to CPU (52). Said slot (44) reads the data recorded on card (70), and outputs their contents to CPU (52). For example, said card (70) is an IC card on which are stored the program-viewing fees accumulated by the user. Also, modem (46) is connected to telephone line (74) as a public line, and the digital data are converted into audio data appropriate for transmission over the telephone line, and, at the same time, the reverse process also can be performed. Also, telephone set (72) is connected via said modem (46) to telephone line (74). Also, the various types of information are stored in storage unit (48). For example, the program corresponding to the flow chart to be explained below and the data obtained using CPU (52) are stored on storage unit (48). This storage unit (48) can be a RAM.



[0015]

Also, said module (50) has various functions for connecting to said modem (46) and to the Internet. For example, module (50) accesses the prescribed server to set up communication, depending on the user's selection from the home page introduction data displayed on display unit (32). Said home page introduction data will be explained below. Also, depending on the selection made by the user of the program-related Internet data displayed on display unit (32), module (50) accesses a prescribed e-mail address for communication while it accesses a prescribed sever that holds the information of the prescribed home page for communication.

[0016]

Also, CPU (52) controls the operation of the various parts of television receiver A, stores the Internet -related data contained in the independent data or the additional data of the received data in storage unit (26), sends the stored data to character generator (28) and interface (30), and outputs them to display unit (32) and speaker (34). In addition, module (50) is controlled to perform the prescribed operation.

[0017]

In the following, an explanation will be given regarding the operation of television receiver A on the basis of the aforementioned constitution. First, the reception of a CS broadcast will be explained. A CS broadcasting signal from a communication satellite is received by CS antenna (66), and CS tuner (12) selects the received channel for viewing. Then, QPSK demodulator (14) demodulates the received data of the broadcasting signal that has been QPSK-demodulated, and error correction unit (16) performs error correction for the demodulated received data. Said descrambling unit (18) performs the descrambling operation. That is, when a scrambled CS broadcast is received, it is necessary to read-in the code from card (70) by means of slot (44). Also, data separator/program selector (20) separates the independent data and additional data contained in the descrambled received data, and, at the same time, it selects a prescribed broadcasting channel from plural broadcasting channels in a given receiving channel. Then, for the program of the selected broadcasting channel, the video data are decoded by video decoder (22), and the audio data are decoded by audio decoder (24). Also, the independent data and the additional data for each program are stored in storage unit (26). Then, the data are output via interface (30) to display unit (32) and speaker (34). Also, the text data in the independent data and additional data are converted by character generator (28) into video data. In this way, the program of the CS broadcast is output.

[0018]

In the following, an explanation will be given regarding reception for the BS broadcast, UHF broadcast and VHF broadcast. The broadcasting signal is received via BS antenna (60), etc., by shared BS/UHF/VHF receiving unit (10), and the video signal and audio signal are sent to interface (30) and are then output to display unit (32) and speaker (34) for viewing.

[0019]

In the following, an explanation will be given regarding the control related to the Internet with reference to Figures 4-8. In the television broadcasting method of this application example, at transmission, the Internet -related data are contained in the independent data and the additional data. Here, since, at reception, the Internet -related data are contained in the independent data, the independent data are separated by data separator/program selector part (20) and stored in storage unit (26) (S10, Figure 4). Also, since, at reception, the Internet -related data are contained in the additional data, the additional data are separated by data separator/program selector (20) and stored in storage unit (26) (S11, Figure 4). The contents of the Internet -related data will be explained below.

[0020]

First, explanation will be made regarding display of the home page introduction data by the independent data, and the access based on it. As explained above, the Internet -related data are contained in the independent data and are stored in storage unit (26). Here, the Internet -related data contained in the independent data includes the home page introduction data, home page addresses, as well as the first-page data of various companies, etc. Said home page address is sent as a URL. That is, the URL is composed of a protocol name, domain name, etc. Here, the home page address corresponds to this domain name. Also, in the case of the home page, said protocol name becomes "http" corresponding to the hypertext transfer protocol. In addition, said Internet -related data may also be stored in storage unit (48).

[0021]

Since the user selects the home page introduction by means of remote controller (68) etc., CPU (52) retrieves the home page introduction data, and outputs them via character generator (28) and interface (30) to display unit (32), etc. The home page introduction data are displayed as shown in Figure 5. That is, the name of the company that owns the home page is displayed as part of the home page introduction data.

[0022]

Then, when the user selects the company whose home page he desires, the first page of the home page of the company is displayed, and the address of the home page is accessed via said URL. That is, CPU (52) retrieves the first-page data of the home page of the company from storage unit (26), etc., and displays the First-page data on display unit (32). For example, when "company A" is selected from the home page introduction data shown in Figure 5, as shown in Figure 6, the First-page data of the home page of company A is displayed. Also, module (50) is controlled so that CPU (52) accesses the home page of the selected company. That is, since the URLs for the home pages of the various companies are contained in the independent data, CPU (52) retrieves the URL of the selected company from storage unit (26) and sends it to module (50). Said module (50) uses the sent URL to access the selected home page address. Also, during access, dialing is performed for the access point of the provider. After the end of access, the data containing the first page of the home page are retrieved, the display of display unit (32) is rewritten, and then conventional Internet operations are performed. Also, since the First-page data of the home page are already displayed, the appearance of the display is usually not changed.

[0023]

In the explanation above, the protocol name in the URL was "http." However, access may also be performed by means of FTP. For example, one may also adopt a scheme in which while a list of certain files is received in the form of the independent data, it is also displayed on display unit (32), and with the URL received in the same independent data form, access can be performed where the protocol name of the URL is "ftp." That is, in this case, a URL with an ftp address is used.

[0024]

As explained above, the home page address contained in the independent data of the received data of the television broadcasting is retrieved, and access is performed to the address selected by the user. As a result, it is very easy to access the home page.

[0025]

In the following, an explanation will be given regarding the display of the program-related data that depend on the additional data and access based on it. As explained above, the Internet-related data are contained in the additional data and are stored in storage unit (26). Also, as explained in the above, this data may also be stored in storage unit (48). Here, the Internet -

related data contained in the additional data include program-related data, home page addresses, First-page data of home pages of various companies, prescribed e-mail addresses, etc.

[0026]

When the user is watching a given program, the program-related data are selected by remote controller (68). Then, CPU (52) retrieves the program-related data from storage unit (26), and outputs the data via character generator (28) and interface (30) to display unit (32) etc. The program-related data are displayed as shown in Figure 7. That is, the selection column for selecting the home page introduction of the sponsor of the program and the selection column for sending e-mail to a program-related party are set, in the program-related data.

[0027]

Then, once the user selects the desired home page of a program sponsor, the same processing is performed as was used in the aforementioned case of home page introduction depending on the independent data. That is, CPU (52) retrieves the First-page data of the home page of the company from storage unit (26), and displays it on display unit (32). Also, CPU (52) controls module (50) so that the home page address of the selected company is accessed. After access is completed, the display of display unit (32) is rewritten as the data containing the first page of the home page are retrieved and then the conventional Internet operations are performed.

[0028]

On the other hand, when the user selects transmission of e-mail, the e-mail program is called up and sends the e-mail to the prescribed destination, that is, to the prescribed e-mail address. That is, as shown in Figure 8, CPU (52) displays the menu for transmission of e-mail stored in module (50) displayed on display unit (32), while the URL stored in display unit (32) is retrieved and sent to module (50). Said module (50) sets the destination by means of the URL. For example, when the user selects "mail to actor A," the menu shown in Figure 8 is displayed, and Mr. A's e-mail address is set in module (50).

[0029]

After the user writes the message contents in the "write" column of the e-mail, he selects "send." Then, in module (50), said e-mail address is accessed and the e-mail is sent. One may also adopt a scheme in which access is performed by a URL with an "ftp" protocol name.

[0030]

As explained above, the home page address contained in the additional data of the received data of the television broadcasting is retrieved, and the home page of the address selected by the user is accessed. As a result, it is very easy to access the home page of the sponsor of certain program. Also, since the e-mail address contained in the additional data is retrieved, and the user accesses the address of the selected related party, the e-mail can be sent easily.

[0031]

Effects of the present invention

According to the television broadcasting method of the present invention, Internet access can be easily performed via the with television receiver incorporated address data.

[0032]

Specifically, according to the television broadcasting method described in Claim 3, since the home page address is retrieved by the television receiver, it is possible to access the home page easily. Specifically, according to the television broadcasting method described in Claim 4, by means of the television receiver, the home page introduction data are retrieved, and the home page introduction data are displayed, so that the user can gain access to the accessible home page s. Also, since the First-page data are stored, during the time up until access to the home page is completed, it is possible to display the first page of the home page.

[0033]

According to the television broadcasting method described in Claim 5, since said home page address is input by the television receiver, it is easy to access the home page. Also, by retrieving e-mail addresses, it is possible to send an e-mail to the actors and other persons related to certain programs. According to the television broadcasting method described in Claim 6, since program-related data are stored in the received data, by retrieving and displaying the program-related data with the television receiver, the user can gain access to accessible home page s, and send e-mail to related parties that can receive e-mail. Also, since the First-page data are stored, it is possible to display the first page of the home page during the time up until access to a certain home page is completed. According to the television receiver described in Claim 7, address data is contained within the received data of the television broadcast, it is possible to access home pages easily.

### Brief description of the figures

Figure 1 is a block diagram illustrating the constitution of the television receiver in an application example of the present invention.

Figure 2 is a diagram illustrating the constitution of the received data.

Figure 3 is a diagram illustrating the constitution of the received data.

Figure 4 is a flow chart illustrating the operation of the television receiver in an application example of the present invention.

Figure 5 is a diagram illustrating the display contents of the home page introduction data.

Figure 6 is a diagram illustrating the display contents of the First-page data of the home page.

Figure 7 is a diagram illustrating the display contents of the program-related data.

Figure 8 is a diagram illustrating the display of the menu for sending e-mail.

### Explanation of symbols

A	Television receiver
B	Home automation system
10	Shared BS/UHF/VHF receiving unit
12	CS tuner
14	QPSK demodulator
16	Error correction unit
18	Descrambling unit
20	Data separator/program selector
22	Video decoder
24	Audio decoder
26	Storage unit
28	Character generator
30	Interface
32	Display unit
34	Speaker
36	DVD-RAM driver
40	Home automation communication unit
42	Remote control light-receiving unit
44	Slot
46	Modem
48	Storage unit
50	Internet software module

52	CPU
68	Remote controller
70	Card
72	Telephone set
74	Telephone line

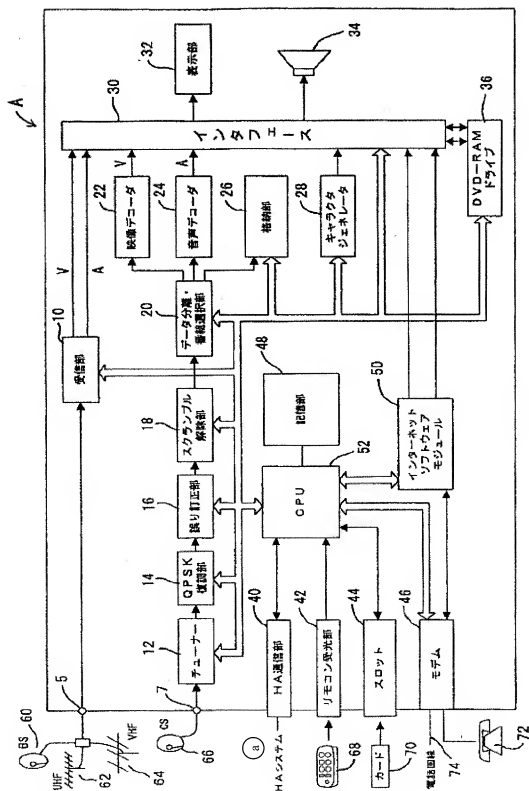


Figure 1



Key:	a	HA system
	10	Shared receiving part
	12	CS tuner
	14	QPSK demodulator
	16	Error correction unit
	18	Descrambling unit
	20	Data separator/program selector
	22	Video decoder
	24	Audio decoder
	26	Storage unit
	28	Character generator
	30	Interface
	32	Display unit
	36	DVD-RAM driver
	40	Home automation communication unit
	42	Remote control light-receiving unit
	44	Slot
	46	Modem
	48	Storage unit
	50	Internet software module
	70	Card
	74	Telephone line

Independent data	Program data 1	Program data 2	Program data 3	Program data 4	Independent data	Program data 1	Program data 2
· Program guide	MPEG 2	MPEG 2	MPEG 2	MPEG 2	· Program guide	MPEG 2	MPEG 2
· News, etc.					· News, etc.		
Packet							

Figure 2

Independent data	Program data 1	Program data 2	Program data 3	Program data 1	Program data 4	Program data 1	Independent data
· Program guide	MPEG 2	MPEG 2	MPEG 2	MPEG 2	MPEG 2	MPEG 2	· Program guide
· News, etc.							· News, etc.
Packet							

Figure 3

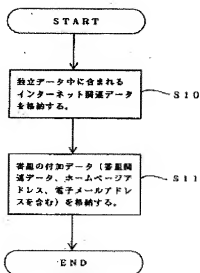


Figure 4

S10 Internet -related data contained in independent data are stored.

S11 Additional program data (containing program-related data, home page address, and e-mail address) are stored.

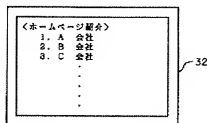


Figure 5

Key: 32 <Home page introduction>

1. Company A

2. Company B

3. Company C

...

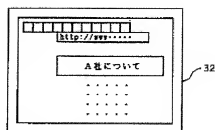


Figure 6

Key: 32    About company A  
...

1.    Sponsor home page
  - (1) Company A
  - (2) Company B
  - (3) Company C
2.    Mail
  - (1) Mail to actor A
  - (2) Mail to actor B
  - (3) Mail to program staff

Figure 7

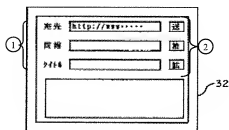


Figure 8

Key: 1    To  
          CC  
          Subject  
      2    Send  
          [illegible]

[illegible]